SANTA CRUZ BIOTECHNOLOGY, INC.

# p-Thr (1E11): sc-81527

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Protein kinases catalyze the phosphorylation of serine, threonine or tyrosine residues in target substrates, providing a mechanism of control for myriad cellular signaling pathways. Threonine phosphorylation plays a role in the activation of ERK and JNK MAP kinases, which are dually phosphorylated on tyrosine and threonine residues by MEK family kinases. Several families of kinases phosphorylate both serine and threonine residues in target substrates, including the Raf, Rsk, ROCK, PAK, Ak and PKC families of protein kinases. Antibodies to phosphothreonine may be used for the characterization of proteins with phosphorylated threonine residues, and for the elucidation of cellular pathways involving threonine phosphorylation.

## REFERENCES


1. Lin, C.R., et al. 1986. Protein kinase C phosphorylation at Thr 654 of the unoccupied EGF receptor and EGF binding regulate functional receptor loss by independent mechanisms. Cell 44: 839-848.
2. Bellacosa, A., et al. 1991. A retroviral oncogene, Akt, encoding a serine-threonine kinase containing an SH2-like region. Science 254: 274-277.
3. Crews, C.M., et al. 1992. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. Science 258: 478-480.
4. Chen, R.H., et al. 1993. Phosphorylation of the c-Fos transrepression domain by mitogen-activated protein kinase and 90 kDa ribosomal S6 kinase. Proc. Natl. Acad. Sci. USA 90: 10952-10956.
5. Pages, G., et al. 1994. Constitutive mutant and putative regulatory serine phosphorylation site of mammalian MAP kinase kinase (MEK1). EMBO J. 13: 3003-3010.
6. Derijard, B., et al. 1995. Independent human MAP-kinase signal transduction pathways defined by MEK and MKK isoforms. Science 267: 682-685.
7. Nakagawa, O., et al. 1996. Rock-I and Rock-II, two isoforms of Rho-associated coiled-coil forming protein serine/threonine kinase in mice. FEBS Lett. 392: 189-193.
8. Brown, J.L., et al. 1996. Human Ste20 homolog hPAK1 links GTPases to the JNK MAP kinase pathway. Curr. Biol. 6: 598-605.


## SOURCE

p-Thr (1E11) is a mouse monoclonal antibody raised against a synthetic threonine-phosphorylated peptide of Thr of origin.

## PRODUCT

Each vial contains 50 µg $IgG_1$ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

p-Thr (1E11) is recommended for detection of phosphothreonine-containing proteins of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or NIH/3T3 + IL-6 cell lysate: sc-24743.

## SELECT PRODUCT CITATIONS


1. Elali, A. and Hermann, D.M. 2012. Liver X receptor activation enhances blood-brain barrier integrity in the ischemic brain and increases the abundance of ATP-binding cassette transporters ABCB1 and ABCC1 on brain capillary cells. Brain Pathol. 22: 175-187.
2. Juretic, N., et al. 2016. Interleukin-6 and neuregulin-1 as regulators of utrophin expression via the activation of NRG-1/ErbB signaling pathway in mdx cells. Biochim. Biophys. Acta. E-published.


## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **p-Thr (H-2): sc-5267** for p-Thr antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.